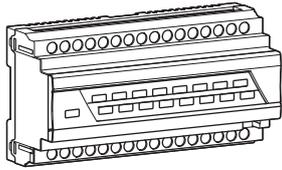


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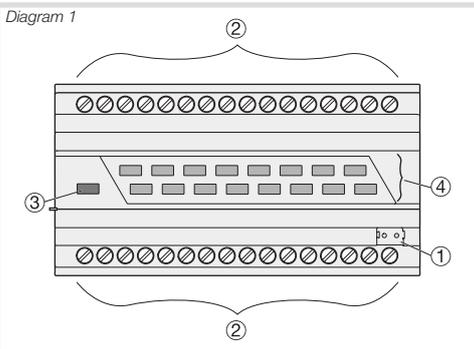
TYF61x
Multi-application outputs module 10A



Safety instructions

The installation and mounting of electrical appliances must only be performed by qualified electricians, in compliance with installation standards and in accordance with the guidelines, provisions and safety and accident prevention regulations in force in the country concerned. Failure to follow these installation instructions may damage the device, cause a fire or give rise to hazards. Risk of electric shock. Switch off the installation before performing any operation on the device or the load. Do not forget to include all of the circuit breakers which supply potentially dangerous voltages to the device or to the load. Risk of electric shock. The appliance is not suitable for providing isolation. Risk of electric shock on SELV/FELV installations. Not suitable for switching SELV/FELV voltages. Only connect one motor per output. Use only motors with mechanical or electronic limit switch sensors. Check the adjustment of the limit switches. Follow the motor manufacturer's instructions. There is a risk of damage to the unit. Do not connect to three-phase motors. There is a risk of damage to the unit. Observe the motor manufacturer's recommendations for the minimum reverse rotation time and the maximum continuous operation time. These instructions for use form an integral part of the product and must be retained by the end user.

Product description



- ① KNX bus connection terminal.
- ② Connections of loads.
- ③ Illuminated programming button.
- ④ Operation button for manual operation for one output with status LED.

Function

System information

This device is a product of KNX system and corresponds to the KNX guidelines. Detailed specialised knowledge obtained from KNX training courses is required for understanding. The planning, installation and commissioning of the device is carried out with the help of KNX-certified software.

Systemlink commissioning

The function of the device is software-dependent. The software is to be taken from the product database. You can find the latest version of the product database, technical descriptions as well as conversion and additional support programmes on our website.

Functional description

The device receives telegrams from sensors or other controllers via the KNX installation bus and switches electrical loads with its independent relay contacts.

Correct use

- Switch electrical loads of 230V~ with potential-free contacts.
- Switching electrically operated motors of 230V~ for blinds, shutters, awnings and similar hangings.
- Mounting on DIN rail according to DIN EN 60715 in the distribution box.
- Control of 24V= electric motors for Venetian blinds, roller shutters and awnings, or any other 24V= motor controlling an opening.
- Control of 230V~ motors for fan-coil units.

Product characteristics

- Manual activation of the outputs on the device possible, building site operation.
- Status display of the outputs on the device
- Scene function.
- Forced position by higher-level controller.
- Connection of various external conductors possible.

Functions in switch operation:

- Time switching functions.

Functions in roller shutter/blind operation:

- Position can be started directly.
- Slat position directly controllable.
- Feedback of operating state, shutter position and slat adjustment.

Available functions:

- Lighting
- Heating
- Shutters and blinds 230V~
- Shutters and blinds 24V=
- 2-tube fan-coil units
- 4-tube fan-coil units

Systemlink commissioning:

Depending on the programming, the manual operation is activated permanently or for a time period configured via the application software. If the manual operation is blocked via the application software, no activation takes place.

Operating outputs in manual operation

Operation takes place per output by briefly pressing the operation button repeatedly (table1).



Risk of destruction due to simultaneous pressing of the buttons for UP and DOWN if a motor is connected when the motor is in unprogrammed state! Motors, hangings and the device may be destroyed! Always only press one button in manual operation for unprogrammed devices.

Status.	Behaviour when button pressed briefly.
Switching operation	
Load is switched off. Status LED of the button ④ is off.	Switch ON the connected load. Status LED of button ④ lights up.
Load is switched on, status LED of the button ④ lights up.	Switch OFF the connected load. LED goes out.
Roller shutter/blind operation	
Output is in standby, status LED of the button ④ is off	Movement operation starts. Status LED of the button ④ lights up. I If the roller shutter/blind is in final position, the button opposite must be pressed to move the shutter/blind
Output active, status LED of the button ④ lights up.	Movement operation stops, LED goes out.

Table 1: Manual operation

Installing the appliance



Electric shock in the event of contact with live parts! Electric shock can cause death! Before working on the unit, switch off the installation and cover the neighbouring conductive parts!



A critical temperature increase may occur if too large a load is connected to the device! The device and connecting cables may be damaged at the terminal connection! Do not exceed the maximum permissible load per device!



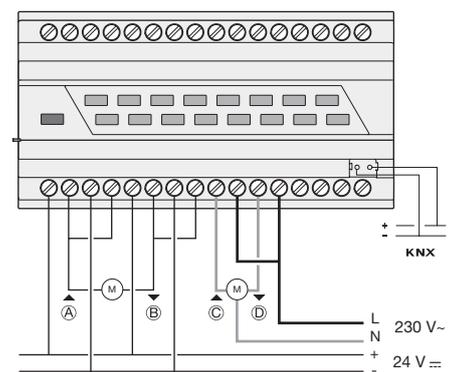
Risk of damage in the event of parallel installation of multiple motors on a single output! The limit switches risk being damaged! The motors, opening elements and the device may be destroyed! Connect only one motor per output!

I Observe temperature range. Provide sufficient cooling.

- Mount device onto DIN rail in accordance with DIN EN 60715

Connect device

Diagram 2



- (A) Shutter UP 24 V $\overline{\text{=}}$
- (B) Shutter DOWN 24 V $\overline{\text{=}}$
- (C) Shutter UP 230 V \sim
- (D) Shutter DOWN 230 V \sim

- Connect bus cable via connecting terminal ①.

Connecting loads to be switched

The output is configured as switching output.

- Connect load to the outputs of the device according to diagram 2.

Connection of 230 V \sim motors for roller shutters/blinds

The two adjacent relay outputs **C1/C2, C3/C4, ...** each form a blind output for blind drives. Each left relay output **C1, C3, C5, ...** is designated for the UP direction, and each right relay output **C2, C4, C6, ...** is designated for the DOWN direction. In manual operation, the blind is moved UP and DOWN using the corresponding operation buttons. Two outputs are configured as blind output.

- Connect drives according to diagram 2. While doing so, use the same phase (external conductors).

Connection of 24 V $\overline{\text{=}}$ motors for roller shutters/blinds

- 24 V $\overline{\text{=}}$ roller shutters
- For the roller shutter motors, four neighbouring 24 V $\overline{\text{=}}$ outputs **C1/C2/C3/C4** and/or **C7/C8/C9/C10** can be used to form a shutter output.
- The first and second outputs of the group of 4 outputs **C1/C2** or **C7/C8** must be connected to the + terminal of the 24 V $\overline{\text{=}}$ power supply.
- The third and fourth outputs of the group of 4 outputs **C3/C4** or **C9/C10** must be connected to the - terminal of the 24 V $\overline{\text{=}}$ power supply.

Connect the 24 V $\overline{\text{=}}$ motor to the outputs in accordance with diagram 2 below.

Start-up

Systemlink: Loading physical address and application software

- Switch on bus voltage.
- Press programming button ③. The button lights up.

I If the button does not light up, no bus voltage is present.

- CLoad the physical address into the device. Status LED of the button goes out.
- Load application software.

Start up the device

- Switch on mains voltage on the outputs.

Determine operation time and slat adjusting time

In blind/roller shutter operation, the operation time for positioning the sunshade is important. The position is calculated based on the operation time. The slat adjusting time for slat blinds, determined by the design, is part of the total operation time. The opening angle of the slats is therefore set as operation time between opened and closed position.

I The operation time for UP is normally longer than the operation time for DOWN and must be measured separately if necessary

- Measure UP and DOWN operation time of the hanging.
- Measure slat adjusting time between OPEN and CLOSED.
- Enter measured values into the parameter setting – running time... or slat step time.

Functional test

The functionality of the outputs is displayed via the status LED of the operation button ④.

Technical characteristics

Supply voltage KNX	21-32V $\overline{\text{=}}$ SELV
Breaking capacity	μ 10A AC1 230V \sim
Incandescent lamps	2300 W
HV halogen lamps	2300 W
Conventional transformers	1500 VA
Electronic transformers	1500 W
Fluorescent lamps	
- without ballast	1000 W
- with electronic ballast (mono/duo)	1000 W
- with conv. ballast, parallel circuit	1500 W
Energy-saving/LED lamps	20x20 W
Minimum switching current	100 mA
230 V \sim shutter motors	6 A max
230 V \sim fan-coil unit motors	4 A max
24 V$\overline{\text{=}}$ shutter motors	6 A max
Maximum operating altitude	2000 m
Pollution level	2
Surge voltage	4 kV
Protection rating (box)	IP20
Protection rating of box under faceplate	IP30
Protection rating against mechanical shocks	IK04
Overvoltage category	III
Operating temperature	-5° ... +45°C
Storage/transport temperature	-20° ... +70°C
	0,75 mm ² ...
Screw terminal connection capacity of the outputs	4 mm ² (or 2 x 2,5 mm ²)
Upstream protection	circuit breaker 10 A
Variants with 12 and 16 outputs	
Own consumption on the KNX bus:	
- max	20mA
- in standby	10mA
Dimensions of 10 modules	171 x 90 x 64 mm

Troubleshooting ?

Bus operation is not possible

Bus voltage is not present.

Check bus connection terminals for correct polarity.

Check bus voltage by briefly pressing the programming button ③, red LED lights up if bus voltage is present.

Shutters/blinds do not move to the final position

Operation time for the shutters/blinds set incorrectly.

Check operation times. Measure again and reprogram if necessary.



Correct Disposal of This product
(Waste Electrical & Electronic
Equipment).

(Applicable in the European Union and other European countries with separate collection systems).

This marking shown on the product or its literature indicates that it should not be disposed with other household waste at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes of disposal.

Usable throughout Europe  and in Switzerland